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IN THE

Supreme Court of the United States

October Term, 1945

No. 46

GENERAL ELECTRIC COMPANY,
Petitioner,

vs.

JEWEL INCANDESCENT LAMP COMPANY, *et al.*,
Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE THIRD CIRCUIT

BRIEF FOR RESPONDENTS.

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BRIEF FOR RESPONDENTS.

This cause is here on a writ of certiorari, to the Circuit Court of Appeals for the Third Circuit, in a patent infringement suit involving both claims of Pipkin Patent No. 1,687,510, dated October 16, 1928, for incandescent lamps having glass bulbs frosted on the inside.

Opinions of the Courts Below.

The opinion of the District Court (R. 327) is reported at 47 F. Supp. 818. The opinion of the Circuit Court of Appeals (R. 349) is reported at 146 F. (2d) 414.

Statement of the Case.

Because petitioner's "Statement of the Case" is quite incomplete, it is deemed by respondents to be necessary to restate the case as they see it.

Commercial Background.

Petitioner, the General Electric Company, under patent rights long since expired, created and for many years maintained an absolute monopoly in the manufacture and sale of incandescent lamps. As was said by Chief Justice TAFT in 1926 (*United States* v. *General Electric Co.*, 272 U. S. 476, 481):

> "These three patents cover completely the making of the modern electric lights with the tungsten filament and secure to the General Electric Company the monopoly of their making, using and vending."

Since the expiration of those patents a small number of responsible, well-organized, and efficient concerns, including the respondent Jewel, engaged in the manufacture of incandescent lamps in competition with the General Electric Company. As a result of this legitimate competition the price of lamps has been brought down to and kept within the reach of the average member of the public.

By means of the Pipkin patent involved in this suit the General Electric Company has sought to re-establish its expired monopoly in the manufacture and sale of incandescent lamps. The patent, however, is not for an incandescent *lamp*—it relates only to a lamp *bulb* the inside surface of which has been "frosted" by etching. Obviously, if an incandescent lamp provided with a *bulb* having its inside thus frosted could be popularized to the extent that it would become the standard of incandescent *lamps* available to the purchasing public, the Pipkin patent would afford a ready means by which the General Electric Company could recapture its theretofore absolute monopoly in this field.

The only justification for a *frosted* lamp was that it reduced the "glare"—the brightness—of the light emitted

by the lamp, and petitioner's brief goes to great lengths to make it appear that this was a "problem" that had existed in the art long prior to Pipkin, and one whose solution many workers in the art had sought. Beside the simple fact that the General Electric Company constituted the sole and entire "art" in the manufacture and sale of incandescent lamps until the expiration of its dominating patents referred to by this Court, *supra*, the history of the art affords no basis for petitioner's contention that a "problem" awaited solution.

Factually and historically, in the early days the filaments of incandescent lamps, whether of carbon or tungsten, gave off very dim light and were spread within the glass bulb over a large area in the form of an open coil or of a spider or zig-zag lace. As the art of making filaments and incandescent lamps developed, the filament became more and more brilliant, was compacted into a smaller area and enclosed within a gaseous atmosphere, usually nitrogen gas. It was easy enough to produce gas-filled lamps of the larger types, but the production of the smaller sizes ordinarily employed for home lighting presented difficulties. Contrary to petitioner's assertion (brief, p. 2) that the glare of brilliant filaments was a problem long prior to Pipkin's alleged invention in 1925, it was not until 1926, when gas-filled lamps of low wattages were produced, that the "glare" became noticeable (Herzberg, R. 89, Q24, *et seq.*).

To induce commercial acceptance of the frosted lamps for home lighting, and to create a demand therefor to the practical exclusion of all others—both necessary steps in the attempt to reclaim the incandescent lamp monopoly—petitioner initiated the marketing of its frosted lamps by a price five cents cheaper than the same lamps in unfrosted bulbs, despite the obvious fact that the frosting process in-

volved additional and substantial manufacturing expense (Herzberg, R. 89, Q27).

The Pipkin Patent.

The patentee makes no claim to being the first to frost an electric lamp bulb. Indeed, the patent on its face (R. 141, l. 23, *et seq.*) expressly acknowledges frosted lamp bulbs in the prior art—frosted on *either* the *inside* or the *outside*. All that the patent advances as novel is the particular *process* by which the frosting is effected. The patent states (R. 141, ls. 68, *et seq.*):

> "When the inside surface of a lamp bulb is subjected to these frosting mixtures to the extent necessary to produce a practical frost, that is, one which will produce the proper light diffusion, the article becomes extremely fragile. I have found, however, that if the bulb is given *a further treatment, which I term a strengthening treatment, in which it is subjected to an etching or frosting treatment of lower degree than that to which it was first subjected, it becomes quite strong.* Indeed, it may be made practically as strong as the original clear glass bulb."[1]

From this it will be seen that the alleged invention of the patent is stated to be the *two* successive etching treatments instead of the *one* etching treatment of the prior art which the patent disclaims and contends is of no commercial utility; and this was found by the Court of Appeals below to constitute the "gist" of Pipkin's disclosure (R. 352).

However, the two claims of the patent are worded as *product* claims. Thus, claim 1 recites:

> "A glass electric lamp bulb *having its interior surface frosted by etching so that* the maximum *brightness* of an ordinary incandescent lamp com-

[1] Emphasis ours throughout this brief unless otherwise stated.

prising such a bulb will be less than twenty-five per cent of that of said lamp with a clear bulb, said interior *bulb surface being characterized by the presence of rounded as distinguished from sharp angular crevices to such an extent* that the *strength to resist breakage by impact* is greater than twenty per cent of that of the clear bulb."

Claim 2 differs from claim 1 solely in increasing the strength of the bulb from the 20% of claim 1 to 45%.

The italicized parts of the claim specify three physical characteristics of the glass bulb, as petitioner readily admits (brief, p. 37):

(1) Its *brightness* as compared to a clear bulb (defined as less than twenty-five per cent of that of the clear bulb);

(2) Its *surface construction* (which is described as "characterized by the presence of rounded as distinguished from sharp angular crevices"); and

(3) Its *strength* as compared to a clear bulb (*i. e.* its ability to resist breakage by impact, specified as greater than a given percentage of a clear bulb).

The claims require that all three characteristics be produced by the process of "etching" and are, therefore, of the type often condemned as seeking to monopolize a *product* by defining the product in the terms of the *process* by which it is produced.[2]

Since the patentee acknowledged that inside frosted lamp bulbs were old, the only thing that could have been advanced by him as an invention was the allegedly new *process*—the two-step process. Petitioner's expert Spen-

[2] *Smith* v. *Goodyear*, 93 U. S. 48; *Cochrane* v. *Badische* 111 U. S. 293; *Plummer* v. *Sargent*, 120 U. S. 442; *Westinghouse* v. *Quackenbush*, 53 F. (2d) 632, C. C. A. 6; *U. S. Gypsum* v. *Consolidated*, 130 F. (2d) 888, C. C. A. 6.

cer unequivocally testified in cross examination (R. 47-48) that Pipkin's two-step process was the *only* means known that could produce the "product" claimed by the patent.[3] Notwithstanding these facts, petitioner is here seeking to hold as an infringement lamp bulbs frosted by the disclaimed one-step process. The charge of infringement is not based upon an alleged appropriation of Pipkin's invention—his *two*-step process—but solely on the assertion that the claims give to the General Electric Company a monopoly on *all commercial* inside frosted lamp bulbs.

Of course, no such thing was intended by or is possible under the patent statutes. Progress in the arts and sciences would be stifled by the creation of patent monopolies in articles of commerce to the manufacture of which the patentees have contributed absolutely nothing.

This Court has always condemned attempts to use a patent, regardless of the form of its claims, to create or enforce a monopoly in something *other* than that which constituted the inventive contribution. Thus, in mechanical patents a patentee could not, by claiming a mechanical element as "means" for accomplishing a function or operation, monopolize any and all means that might be devised for that purpose, but was restricted to the *particular* means devised and disclosed by him (*Westinghouse* v. *Boyden*, 170 U. S. 537). Similarly, the use of a patent so as to create a monopoly beyond the patent grant will deprive the owner of the patent of the right to enforce it.[4]

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[3] Obviously, therefore, if Pipkin's two-step process was the *only* way of producing the product of the claims, the clause that the glass bulb was "frosted *by etching so that*" certain physical characteristics be obtained, necessarily included Pipkin's two-step etching process as the *essential* element of the claimed invention.

[4] *Carbice Corp.* v. *American Patents Development Corp.*, 283 U. S. 27; *Leitch Mfg. Co.* v. *Barber*, 302 U. S. 458; *Morton Salt Co.* v. *G. S. Suppinger Co.*, 314 U. S. 418; *Mercoid Corp.* v. *Mid-Continent Investment Co.*, 320 U. S. 661.

There are two good reasons why petitioner insists that the claims should be regarded as for a "product" and not for Pipkin's process. The first is that respondents' bulbs are produced by the *one*-step process. The second reason is that the Pipkin process was old. Petitioner is here forced to admit (brief, p. 21) what it vigorously and successfully denied in the prior litigations in the Sixth and Second Circuits, namely, that Pipkin's *two*-step process had been published in the literature of the art at least as early as 1887.[5]

Prior Litigations.

The Courts of Appeals for the Sixth and Second Circuits both held the patent valid and infringed because they thought that Pipkin's two-step process was new and constituted an invention, *and the defendants in those cases used the two-step process.*

Thus, the Court of Appeals for the Sixth Circuit said (82 F. (2d) 100, 101):

> "*What Pipkin claims to have discovered* is that by subjecting bulbs frosted in the usual manner on the inside to a *further etching treatment* he could enormously increase their strength, even though this treatment removed additional material. The effect of the *second etching treatment* with a weaker acid, at reduced temperature, or for a shorter period of time, was said to *round out the sharp crevices* so that cracks no longer started therefrom. *This is claimed to be an absolutely new attack upon a long-recognized problem, and Pipkin is said to have succeeded where others have failed. By his invention it is asserted a*

[5] The Court of Appeals noted in its opinion (R. 351):

> "The concession [by petitioner that the two-step process was old] is necessary in view of the prior publications on the subject."

new article was produced; an inside frosted bulb of a strength comparable with that of a clear bulb, although for commercial purposes he was not required to go so far."

Similarly, in the *Wabash* case it was held by the Second Circuit Court of Appeals, per Judge MANTON (93 F. (2d) 671, 672):

"It was found and recognized by this inventor that *the first treatment* resulting in a multitude of tiny pits or depressions eaten into the surface of the glass—millions of them to a square inch—*could be strengthened* by filling in these pits and crevices *with a strengthening treatment.* He says that this *second treatment* eats away still more glass from the inside surface, and by so doing produces the increase in strength to which he refers. The multitude of tiny pits or depressions produced by the initial treatment are sharply angular in character. *The treatment rounds them out, and it is this rounding out of the pits or depressions that makes for strength* and remedies the fatal weakness of inside frosted bulbs.

"*To have accomplished this over the Kennedy patent of 1903 amounts to invention.* The claims are novel. Although the advantages of inside frosted bulbs were recognized long before Pipkin, no one produced an inside frosted bulb with the adequate strength for commercial use. *No one before had suggested rounding out the tiny frosted crevices by dissolving additional glass and thus rectifying the weakness which was attributable to the sharpness of those crevices.*"[6]

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[6] Subsequent to this decision the General Electric Company moved to punish Wabash for contempt. Affidavits were proffered and expert as well as fact witnesses were examined in open Court. Judge GALSTON denied the motion because the defendant had abandoned the use of lamps made by the two-step and adopted a *one*-step process (29 F. Supp. 1003).

It will be seen, therefore, that not only in the opinion of the Third but also in the opinions of the Second and Sixth Circuit Courts of Appeals, the main and only novel feature of the Pipkin patent was the *two*-step process.

Unlike the Second and Sixth Circuit Courts the Third Circuit did *not* overlook the fact that the Pipkin claims were *not* for his invention and held (R. 352):

> "As product claims there is an insuperable bar to their validity. They appropriate an old product. If the claims of the patent were process claims and appropriated the two step process of Pipkin's specification, they might be held valid . . ."

We note here that petitioner does not use and never did use the specific *two*-step process described by the patent. Recognizing the triviality of the process, Pipkin canceled seven claims which the Patent Office was willing to allow on it (R. 237) and retained only the two claims in which the process is described merely by the vague reference to etching.

When it contends that the record in this case is the same as in the Second Circuit (brief, p. 12), petitioner disregards the employment by respondents of the *one*-step process, whereas the accused structures in the *Wabash* case (as well as the *Save* case) were frosted by the *two*-step process.

The corresponding Canadian Pipkin Patent No. 289,379,[7] owned by the General Electric Company Limited, was held invalid by the Supreme Court of Canada (1940 D. L. R.

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[7] The Canadian patent was a reissue claiming a product in substantially the same manner as the United States patent does. Typical claims were as follows:

> 1. A bulb for electric lamps and similar articles having its inner surface covered with rounded etching pits or depressions.

(Footnote continued on page 10)

S. C. R. 371, 381), reversing the Exchequer Court which had followed the decisions of the Sixth and Second Circuits in this country.

Associate Justice KERWIN in a concurring opinion held:

> "... now upon the construction of the specification and the claims, it is evident, I think, that *if Pipkin made any invention* (which it is unnecessary to determine), *it was in a strengthening treatment and not in an article strengthened by any means whatsoever.*"

Likewise, the corresponding British Pipkin patent (No. 228,907, issued to the British Thompson-Houston Co., Ltd.) was held invalid by the High Court of Justice in England. The claims of the British patent were all directed to the *two*-step process, and were held to be completely anticipated by the "Sprechsaal" publication of 1907, a copy of which is found in the present record at page 286. The Court of Appeals below referred to and quoted from this publication in its Footnote No. 3 on page 351 of this record.

Clearly, the prior decisions in the United States favorable to Pipkin were predicated upon the acceptance of the assertion that Pipkin's *two*-step process was novel (with which conclusion the British Court disagreed), and that the only adjudication of the product claims *divorced from the process* has been in the present case, and there was

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(Footnote continued from page 9)

4. A glass electric bulb having its interior surface frosted by etching to such an extent that the light is sufficiently diffused to obviate glare, said interior bulb surface being characterized by the presence of rounded as distinguished from sharp angular crevices, to such an extent that the strength of the bulb as compared to an unetched bulb of the same thickness has not been sufficiently reduced to preclude commercial handling.

complete unanimity in both Courts below that the product claims were invalid.

It is interesting to note that the District Courts in all the three circuits held the patent invalid.

The Product Claims.

However, let us consider the argument that the claims are for a *product*, as distinguished from the *process* of producing it, and see just what the *product* is claimed to be.

As we have shown (*ante*, p. 5), the product must have the three physical characteristics—brightness, surface construction and strength. Not any one or any two of these three characteristics are claimed as the invention, *but the combination of the three.* One is astonished to find, therefore, that *no such combination was described or even mentioned in the Pipkin application as originally filed.* The two claims of the patent were added to the application nearly three years after it had been filed; they were entirely foreign to and wholly inconsistent with what theretofore had been described and claimed to constitute the invention; and they never have been supported by the oath of the inventor as constituting his invention—a statutory prerequisite to the patent's validity (Sec. 4692 R. S.).

Petitioner now argues (brief, p. 13) that Pipkin was the "first" ever to make an inside frosted bulb the inner surface of which was "characterized by the presence of rounded as distinguished from sharp angular crevices"—which is described (brief, p. 10) as "the characteristic feature of the invention of the patent". Also (on p. 13), the representation is made that the Pipkin bulb "was the first *commercially strong* inside frosted lamp bulb". None of these assertions is correct, as we later shall show. Here we merely wish to point out that claims of the scope suggested by the assertions were presented in the Pipkin

applications, were rejected on prior art, *and were abandoned by Pipkin.* Thus, in the first Pipkin application (to which we shall refer in greater detail later) the following claims were originally presented (R. 168):

> "8. A bulb for electric lamps and similar articles having its inner surface covered with rounded etching pits or depressions.
>
> 9. An incandescent electric lamp bulb having on its inner surface rounded etching pits or depressions."

These claims were cancelled on August 27, 1925 in view of a prior art patent. No attempt was ever made in the second Pipkin application (which resulted in the patent in suit) to claim what counsel now asserts to be Pipkin's "invention", although the following claim, which was *also* rejected and later cancelled, did attempt to cover a "commercially strong" bulb. This claim, directed to two of the three features, the combination of *all* of which now constitutes the claims of the patent as issued, reads as follows (R. 228):

> "16. An incandescent electric lamp having a bulb inside frosted by etching in such manner that the glare therefrom is practically prevented as compared with a clear lamp, and having a strength to resist breakage by impact sufficient to permit commercial handling thereof."

It is well settled that the patentee who abandons a claim in his application after it is rejected by the Patent Office Examiner cannot thereafter successfully contend that some *other* claim of his patent shall be construed to be coextensive with the one abandoned.[7a]

[7a] *Royer* v. *Coupe*, 146 U. S. 524, 532; *Corbin Cab Lock Co.* v. *Eagle Lock Co.*, 150 U. S. 38, 40; *Computing Scale Co.* v. *Automatic Scale Co.*, 204 U. S. 609, 617.

Moreover, the claims of the patent as issued on their face are fatally vague and defective in that neither they nor the specifications of the patent give the slightest information as to what "extent" the crevices must be "rounded" to give the recited strength. The patent not only gives no information as to these necessary factors—it gives no guide as to how they can be determined other than by functional result.

The Sixth Circuit Court of Appeals either did not have these controlling matters called to its attention or it overlooked them. Judge MANTON ignored them or waived them aside. The Third Circuit Court of Appeals did not consider the question (footnote 5, p. 352) since it held the patent invalid on the ground that the claims were not for Pipkin's alleged invention.

This and the indefiniteness of the claims are important questions of law whose decision may not only dispose of the Pipkin patent but also of many other patents, and bring about a sorely needed correction in what has degenerated into improper practices in the Patent Office. We shall, therefore, fully explore them.

Summary and Order of Argument.

The Pipkin patent is invalid because—

(1) The claims are fatally indefinite and vague.

(2) The claims are based on new matter injected into the application years after it was originally filed, and they define an invention both different from and incompatible with the one originally disclosed and claimed.

(3) The subject matter of the claims has never been supported by the oath of the inventor as required by the statute.

(4) The claims are anticipated by and define no invention over the prior art.

The claims of the patent are not infringed because—

(5) The patent covers only bulbs frosted by a two-step process, whereas, respondents' bulbs are produced by the one-step process.

(6) The frosted surface of respondents' bulbs does not have only rounded crevices.

ARGUMENT.

POINT I.

The claims of the Pipkin patent are fatally indefinite and vague.

The District Court held (R. 346, finding VII) the claims invalid because they did not define the alleged invention with the definiteness and distinctness required by Section 4888 of the Revised Statutes.

The claims define the product—"a glass electric lamp bulb"—as having its interior surface frosted by etching *"so that"* certain brightness, surface structure and strength are obtained. The patent does not say *what* etching (character or extent) is necessary to produce that result, unless it is the *two*-step process which is described—and petitioner strenuously argues against this.

Either the language of the claim finds supporting disclosure in the *two*-step process of the patent and there is no infringement because respondents employ a *one*-step process, or the language is fatally indefinite and vague.

Furthermore, the claims speak of the interior bulb surface as

> "characterized by the *presence* of rounded as distinguished from sharp angular crevices *to such an extent* that the strength to resist impact"

is greater than a specified amount as compared to a clear bulb. Petitioner makes no pretense that the term "presence * * * to such an extent" means that *all* crevices are rounded, or that a *few* rounded crevices among the millions of crevices present would come within the claims. It is impossible to subject glass to the action of an etching fluid without producing rounded crevices. Petitioner's expert Spencer testified that even a *single* etching will round to *some* extent the crevices formed in the glass surface. It is impossible to ascertain from the patent *how many* rounded crevices are necessary to produce the product advanced as the invention of the patent, or *what number* thereof is within the public realm and can be utilized without infringement.

Additionally, what *degree* of rounding is within the patent and what is outside of the patent? According to Spencer's definition the word "rounded" covers any and all curvatures, *i. e.*, all surfaces from flat to those intersecting in a mathematical line. He testified (R. 52):

> "XQ242. Just one more question, Mr. Spencer. You have throughout your testimony used the term 'rounded', in referring to these pits or depressions. Now, will you give me your definition of the word 'rounded' as you have used it in your testimony? A. Well, as I said, Mr. Darby, I don't believe that any two real planes would intersect in a mathematical line. So there is *some* radius of curvature, where two real planes would intersect. If you carried it to reductio ad absurdum, certainly it couldn't be less than one molecule radius of curvature. It is probably quite a number of them. *But we know that where these two real planes do intersect, on a frosted surface, you do get a radius of curvature that results in*

> *weakness.* And you can see the effect of the treatment in rounding out that crevice, and you know from observation of the surface and from other ways of proving to yourself, that the radius of curvature on a so-called fortified surface is *greater* than the radius of curvature here on the etched and untreated surface."

Therefore, even the "sharp angular crevices" that the patent claims refer to as resulting from the old one-step etching are in fact "rounded" to *some* extent, and all that Pipkin's strengthening treatment does is to round them more—a mere matter of *degree* or radius of curvature.

Then, *what* degree or radius of curvature is necessary to get the desired strength? *The patent nowhere tells us.* Since the public is entitled freely to use *some* radius of curvature, the patent should specify at *what* radius of curvature the prohibition of the patent begins, and how it can be ascertained.

Bearing in mind that this feature of rounding is advanced by petitioner as the "characteristic feature" (brief, p. 10) of the invention to which the claims are directed, obviously the patentee has used conveniently vague, indefinite, and functional language *at the exact point of alleged novelty of the invention,* a practice condemned and found fatal to validity by this Court in *General Electric Co.* v. *Wabash Appliance Corp.* (304 U. S. 364, 369). The Court there said:

> "Patents, whether basic or for improvements, must comply accurately and precisely with the statutory requirement as to claims of invention or discovery. * * * The statute seeks to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their rights. The inventor must 'inform the public during the life of the patent of the limits of the

> monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.' "

Later in its decision, the Court said (p. 371):

> "But the vice of a functional claim exists not only when a claim is 'wholly' functional, if that is ever true, but also when the inventor is painstaking when he recites what has already been seen, *and then uses conveniently functional language at the exact point of novelty.*"

Since the decision in that case this Court and the lower Courts have uniformly applied its doctrine.[8]

Mere *observation* could not determine rounded or angular crevices because, according to Spencer, *all* the crevices produced by the *one*-step process of the prior art were rounded to *some* extent—they all had *some* radius of curvature. The bump tester described in the patent determines merely whether or not the desired result *has* been achieved. In no sense is it a means of determining *how* to achieve the desired result, *although that is the sole function of the patent disclosure.* Petitioner's argument is that any bulb that breaks does not come within the patent, but any bulb that does not break is covered by the patent. *But this, precisely, was the test that petitioner unsuccessfully attempted to foist upon this Court in the Wabash Appliance case.*

Petitioner finally attempts to distinguish the facts of the present case from those of the *Wabash Appliance* case by one sentence in the decision, a portion of which petitioner italicizes, as follows (brief, p. 34):

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[8] A few of the many cases are: *United Carbon Co.* v. *Binney & Smith Co.*, 317 U. S. 228; *Allan Bradley Co.* v. *Erie*, 104 F. (2d) 150, C. C. A. 3; *B. B. Chemical Co.* v. *Cataract*, 122 F. (2d) 526, C. C. A. 2; *John Bean Mfg. Co.* v. *Creagmile*, 123 F. (2d) 182 C. C. A. 9.

> "A limited use of terms of effect or result, which accurately define the essential qualities of a product to one skilled in the art, may in some instances be permissible and even desirable, but *a characteristic essential to novelty may not be distinguished from the old art solely by its tendency to remedy the problems in the art met by the patent.*"

That this italicized language affords petitioner no avenue of escape will be clear from the following:

Here petitioner itself urges that the "characteristic essential to novelty" is the rounding of the crevices. The "problem" that the Pipkin patent assertedly sought to solve was to strengthen the glass, and the "solution" was achieved by the rounding of the crevices. Since rounded crevices—produced by the two-step process described by the Pipkin patent—were concededly old in the art, petitioner now seeks to distinguish from the old art by a "characteristic essential to novelty" (rounded crevices) "solely by its tendency to remedy the problem in the art met by the patent" (the strengthening of the glass), *and that is what this Court condemned.*

In order to make the argument petitioner is forced to assert novelty in Pipkin for the rounded crevices, closing its (and, it hopes, this Court's) eyes to its earlier admission that such rounded crevices were in the prior art at least as early as 1887—which admission was necessary as a prop for the *product* claims whose novelty was the asserted *combination* of three physical characteristics as distinguished from the process of producing them.

We submit that the claims of the patent are obviously invalid because of their indefiniteness and vagueness, as the District Court below held.

POINT II.

The claims are invalid because they are directed to new, different and inconsistent subject matter belatedly inserted into the patent by amendment.

Because they found the Pipkin patent to be invalid on other grounds, neither of the Courts below passed on this defense.

The facts are conclusively established by the file history of the patent while an application in the Patent Office.

The patent states (R. 141, ls. 3-5) that it is "a continuation in part" of an earlier filed application. Therefore, our consideration of the file history starts with that first application.

The First Pipkin Application (R. 159-197).

This application was filed February 4, 1924 (R. 159), more than a year prior to the application for the patent in suit. It contained no drawings. The invention was not limited to frosted glass bulbs for electric lamps but covered also "*other frosted glass articles in which the glass is thin and subject to breakage*" (R. 163, l. 10). The *first* frosting step was done "either mechanically as by sand blasting or chemically by reagents which have a solvent action on the glass" (R. 164, ls. 23, 24). The glassware treated in accordance with the process of the application was "found thereafter to have much higher resistance to shock" (R. 164, ls. 3, 4), because (l. 5):

> "the first etching produces pits in the glass having comparatively sharp angles and that these are rounded out by *the treatment comprised by my invention* which may be called a strengthening treatment."

It will be seen, therefore, that the disclosure of the first application contained (1) a statement with respect to "rounded as distinguished from sharp angular crevices"; (2) *nothing* about the relation of the brightness of the frosted bulb to that of a clear bulb; (3) *nothing* as to the strength of the frosted bulb relative to the clear bulb. The original disclosure mentioned only one of the three characteristics of the claims of the patent in suit and nothing was said of the remaining two features of the claims in suit. *Neither claim of the patent could, therefore, have been made in the first Pipkin application.*

The claims of the original application (R. 167) were directed to both the method (claims 1 to 6) and to the product (claims 7, 8 and 9, R. 168) which was variously described. "as an article of glass" (claim 7), "a bulb for electric lamps *and similar articles*" (claim 8), and "an incandescent electric lamp bulb" (claim 9); and in only claims 8 and 9 was the *inner* surface of the bulb recited, the invention being advanced as applying to *either* the outer or inner surface *of any glass article.*

All of the claims of the case were rejected on the patent to Wood, No. 1,240,398 (R. 261), the disclosure of which was tersely summed up by the Examiner in his statement (R. 170):

> "In this patent, electric lamp bulbs and similar articles are subjected to a sandblast to form small depressions in them and their surfaces are then treated with an etching compound to make rounded pits or depressions."

Thereupon the claims were canceled (R. 171) and eight new claims were submitted, the last two of which (R. 172) were directed to the product, and described the rounded pits or depressions; *but no reference was made to the other two characteristics of the claims in suit.*

These claims were again rejected on the Wood patent (R. 174), and on December 21, 1926 (R. 175), *a year and six months subsequent to the application for the patent in suit,* product claims 7 and 8 were amended by specifying that the rounded pits were "of such character and number as to give said articles a whitish appearance, said article having a comparatively great strength to resist breakage by impact". It should be noted that this amendment did not contain the *specific* information as to strength and brightness of the claims in suit, and made no comparison with clear bulbs. However, here, for the first time, was injected language concerning the "character and number" of the rounded pits or depressions, *and this was approximately three years subsequent to the filing date of the first application, and one and a half years subsequent to the filing date of the second application for the patent in suit.*

The Examiner rejected all the claims as involving new matter unsupported by the application as originally filed (R. 177). Pipkin then filed an oath (R. 182) which did not, by terms or intent, purport to supplement his oath as an inventor. Indeed, it was an oath to an alleged *fact* as to the whitish appearance being a characteristic of inside frosted lamps, which oath, equally as effectively, could have been made by anyone familiar with frosted lamps. In other words, it did not purport to be a "supplemental" oath of invention, *and was not directed to any of the three physical characteristics of the lamp bulb with which we are here concerned.*

The rejection for new matter was adhered to, as was the rejection in view of Wood, the Examiner stating (R. 183):

> "Wood preliminarily etches his glass, and whether he does it by chemical or mechanical means makes no difference so far as result is concerned. By this treatment, he gets jagged edges. These edges he

rounds by an application of hydrofluoric acid. The results of each step are the same as applicant's. Hence the product is the same."

Thereafter, on September 8, 1928, a formal abandonment of the application was filed (R. 186).

Thus, it is seen that while "rounded as distinguished from sharp angular crevices" was mentioned and claimed throughout the prosecution of the abandoned application, the *brightness, i. e.*, the percentage of light diffusion as compared to a clear bulb, and the relative *strength* as compared to a clear bulb, which are now claimed *in combination* with the *surface construction, i. e.*, the rounding, were not disclosed in the original application. These features were partially and vaguely injected in December 1926, nearly three years subsequent to the application, and nearly one and one-half years subsequent to the application for the patent in suit.

The Second Pipkin Application (R. 199-242).

Bearing in mind that the second application (for the patent in suit) was filed on June 29, 1925, nearly a year and a half subsequent to the filing of the abandoned application, *and while that application was still pending in the Patent Office*, we make the startling discovery that *there was no mention in the specification or claims, as originally filed, of the physical characteristic of "rounded as distinguished from sharp angular crevices"*. In view of the emphasis on this characteristic in the first application, it is obvious that this was neither an inadvertent oversight nor a mistake, but, to the contrary, was a deliberate omission. The specification, as filed, said (R. 201) that it was "a continuation in part" of the first application. It literally and legally could only have been a *continuation* of such "part" of the

original application which was *common* to them both, and the *only* subject matter which *was* common to them both was the multiple step etching process.

The deliberate omission in the second application of any reference to "rounded" as distinguished from "sharp" crevices is conclusive that *that* feature was *not* common to both applications.

The specification of the second application remained virtually unchanged up to the concluding paragraph of the patent (R. 209), with the exception that, as originally filed, the application (R. 201) contained the introductory statement (now deleted):

> "My invention relates to frosted glass *articles* and to methods and apparatus for frosting them. More particularly it relates to frosted bulbs *and other similarly thin glassware* which is used for electrical and illuminating purposes".

Petitioner's insistence that Pipkin's invention gave to the world the first inside frosted *lamp bulb*, as distinguished from any *other* article of glassware, and thereby filled a long felt want in the *incandescent lamp* art as distinguished from glass etching generally, had its origin with counsel and is flatly contradicted by the description of the invention in the application for patent as originally filed and as sworn to by the inventor.

The twenty-eight original claims (R. 201) were directed to both the product and the process. The product claims recited both the percentage of diffusion (brightness) and the percentage of strength, as compared to a clear bulb, as to which nothing had been said in the first application. *Nowhere in the claims were "rounded as distinguished from sharp angular crevices" alluded to, inferentially or otherwise.*

The application stood in this condition until November 26, 1926, when an amendment was filed inserting into the application a paragraph reading, in part, as follows (R. 223):

> "As set forth in my application Serial No. 690,672, filed February 4, 1924, and hereinbefore referred to, the probable explanation of the fact that the bulbs made according to my invention have a higher strength than those inside frosted by simple application of the frosting treatment which has heretofore been applied to the outside is that in the latter case the surface of the glass is covered by a multitude of depressions or pits having sharply defined angles while the depressions or pits where *my invention* is employed are more or less rounded. *However, my invention is not limited to such a structure,* as indicated in the appended claims, but comprehends the articles therein defined which have the properties therein set forth."

Thus was the subject of "rounded as distinguished from sharp angular crevices", mentioned for the first time in the second application, *and it was coincidentally expressly disclaimed as forming a part of the invention.* This disclaimer was further borne out by the addition of seventeen new product claims, *none of which even mentioned rounding as a physical surface characteristic.*

On April 27, 1927 (R. 230) the Examiner rejected all of the product claims "as failing to claim any invention pointing out, as they do, merely the result of the invention", being, as was the Court below, of the opinion that if any invention existed it was in the *process* and not in the *product.*

On April 18, 1928, an amendment was filed (R. 232) presenting as claims 29 and 30, the two claims of the patent in suit. *Thus, for the first time, was claim made in this application for the physical characteristic of rounded, as distin-*

guished from sharp angular crevices; and likewise for the first time was it asserted that the *combination* of the *three* characteristics of brightness, surface and strength constituted or formed any part of the invention.

About that time an "oral interview" was had with the Examiner (R. 233, 236), who on April 26, 1928 allowed the claims.

On May 29, 1928, an amendment was filed (R. 237) canceling all the other claims (*including seven allowed claims for the two-step process*). At the same time, the paragraph which had been inserted on November 26, 1926, injecting into the application the rounded crevice subject matter, while disclaiming it as the invention (quoted *supra,* p. 24) was canceled, and in lieu thereof *the last paragraph of the description of the patent as issued* (beginning on R. 143, l. 127) *was substituted,* with the naïve statement (R. 238):

> "The amendment to the specification is made *with a view to making it consistent with the claims remaining in the case.*"

The solicitor, who, of course, was familiar with the history and subject matter of both applications, was apparently fully aware of the fact that the claims which were finally allowed were *inconsistent* with the specification as it stood at the time the claims were first presented.

As we have shown, what is now claimed as the invention is not any one, or any two of the three physical characteristics of brilliance, rounded crevices, and strength, but rather *the combination of all three of them.* The patentee has never made the oath required by the statute that he invented any such combination. Indeed, although the patentee is still alive and an employee of the General Electric Company, he was never called by petitioner as a witness in any of the litigations, presumably because he was unwilling.

to swear to inventorship of that combination (R. 85, XQs. 322-324).

It is well settled that the introduction of such new matter invalidates a patent.[9]

We submit that the claims of the Pipkin patent are invalid for the reason stated in this point of argument.

POINT III.

The claims are invalid because neither they nor their subject matter has ever been supported by the inventor's oath as required by the statute.

Because they found the Pipkin patent to be invalid on other grounds, neither of the Courts below passed on this defense.

The pertinent facts have been covered fully in the preceding point. Not until the two claims of the patent were first presented—more than four years after the original abandoned application was filed and about three years after the application for the patent in suit was filed—did Pipkin's attorney, by description in the specification or by claim, assert that Pipkin was the inventor of the *combination* of the *three* physical characteristics which comprise the claims of the patent. Not only was such subject matter a *different* invention from what had been described and claimed in the application, but it was entirely hostile and incompatible therewith. Not even a belated inventor's oath would give validity to such claims, and the absence of such oath, as is here the case, is obviously fatal to the validity of the claims.

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[9] *Muncie Gear Works et al.* v. *Outboard Marine & Mfg. Co.*, 315 U. S. 759; *Mackay* v. *Radio Corp.*, 306 U. S. 86, 101; *Schriber-Schroth* v. *Cleveland Trust Co.*, 305 U. S. 47, 57; *Powers-Kennedy Corp.* v. *Concrete Mixing & Conveying Co.*, 282 U. S. 175, 185; *Chicago & N. W. Railway Co.* v. *Sayles*, 97 U. S. 554, 563; *Insulite Co.* v. *Reserve Supply Co.*, 60 F. (2d) 433.

So far as has been ascertained, this specific phase of the patent law has never been considered by this Court in the particular aspect in which it is here presented. However, it has been considered by the lower Courts. Thus, as stated by the Court of Appeals for the Second Circuit in *Westinghouse Electric & Mfg. Co.* v. *Metropolitan Electric Mfg. Co.* (290 F. 661, 664):

> "A claim not supported by the specification is a bad claim, for reasons that have nothing to do with R. S. Sec. 4892. A disclosure which tells how to do a thing not claimed is a misfortune for the patentee; but that also has nothing to do with section 4892. That statute requires that one shall swear to his invention, and all of it; if he only swears to a part, and his attorney puts in the rest, it is exactly like any other yielding to the temptation of improving an affidavit after execution, by inserting additional allegations of fact. A claim is not a disclosure, but every claim must be justified by the disclosure. If, therefore, a new claim needs for its justification or validity an additional or new disclosure, such additional allegations of fact assuredly need a supplemental oath, not because they are to be used for an amended or new claim, but because they tell some fact of invention not told before."

Again, in *George Cutter Co.* v. *Metropolitan Electric Mfg. Co.* (275 Fed. 158, C. C. A. 2nd), it was said (p. 162):

> "Inventions are either generic or specific, and it does not answer to say that the change involved is merely a mechanical detail or the narrowing of the scope if, in fact, the claims were not originally asserted. It does not follow that one making an oath for a generic invention equally makes oath to a specific invention. If such were a permissible doctrine, a patentee of a broad invention would be enabled to bring within his oath and thus claim priority

of every subsequent invention of a more specific nature."[10]

It follows, therefore, that the claims are invalid on this ground.

POINT IV.

The claims of the patent are invalid because of anticipation by and want of invention over the prior art.

Both of the Courts below sustained this defense and found the Pipkin patent to be invalid.

As we shall point out, the references anticipate Pipkin because they disclose the same etching process and must, therefore, produce the same product. They even use the same terminology in describing the physical characteristics of the "round" pits or crevices produced by the application of successive etching solutions. Although, as the Court of Appeals below noted (R. 351), petitioner conceded that some instances of this art showed complete anticipation of the two-step process of the Pipkin patent, we shall briefly refer thereto as a helpful background for consideration of controverted prior art and the disputed question of infringement.

Die Glashutte of 1887 (R. 273-304).

This article was not cited by the Patent Office during the prosecution of the Pipkin application.

The article is entitled "Contributions to the Knowledge of Glass Etching" and describes various etching solutions of the same kind, in general, as used by the plaintiff and

[10] See, also: *Insulite Co.* v. *Reserve Supply Co.*, 60 F. (2d) 433 C. C. A. 8.

described in the Pipkin patent. It states, beginning at line 95, R. 275:

> "In order to obtain a tone as dark as possible in transmitted light one and the same place is *frosted twice in succession.* With one etching a somewhat brighter tone is produced, and for obtaining still brighter tones the surface frosted once is 'clear-etched' with dilute aqueous fluoric acid once or several times (up to 9 times), the tones becoming thereby brighter and brighter."

Then again, beginning at line 67 (R. 278) referring to Figs. 6b, b^1 (R. 304):

> "The *grooves* between the individual crystal etchings are very *wide* and divided into entirely *trough-like* depressed areas. This appearance is only produced by the free fluoric acid, which always widens all the grooves already present into trough-like forms."

Then, beginning at line 88 (R. 278):

> "Since, however, these troughs owing to their more *rounded* shape, cannot scatter the light so well as *sharp-edged* etchings, the frost must thereby turn out much finer and more translucent, and in this way the phenomenon is explained that the frost turns out the finer the more acid the bath, an observation already made by J. B. Miiler."

The article then proceeds to describe the other figures of the drawings (R. 304) which show the *identical* structure that Pipkin is now claiming.

Beginning at R. 283, an etching process is described in which fluor spar and sulphuric acid are used, and we find on R. 284, beginning in line 5:

> "If a frosted glass plate, successfully prepared according to this process, is examined under the

microscope, it is seen that the surface of the glass plate is covered with *trough-like little pits having circular borders*, which lie close together and interlace, and which have very different depths."

This structure is shown in Fig. 5 (R. 304) which illustrates the same kind of rounded pits as Pipkin now claims.

This is a practical, commercial disclosure of a *two-* (or more) step etching treatment, with a clear exposition of the realization that the successive treatments round out the sharp angular crevices produced by the first etching. It is true that no reference is made to an increase in strength obtained thereby, but this is immaterial because that is an inevitable result of rounding out the angular crevices.

Sprechsaal of 1907 (R. 286-287).

This publication was not cited by the Patent Office during the prosecution of the Pipkin application, and is the publication upon which the British Court invalidated Pipkin's corresponding British patent.

The article in this publication is significantly entitled "The Etching of Hollow Glass" and, after describing in detail the solution used for the first etching of the glass, makes the statement beginning at R. 287, line 69:

> "The glasses which have been frosted in the manner above described are frequently subjected to *another etching* which proceeds further whereby their surface becomes more lustrous and receives a silk-like appearance. This finish is termed satin etching or silk matt. It is achieved by over-etching the frosted glass, after it has been cleaned from the coating, in fluoric acid which is diluted with water in the proportion 1:5, and indeed this over-etching can be repeated several times whereby the silk-like lustre is increased. After this over-etching the glass is washed

in hot water, if it is over-etched several times the glass must be cleaned thoroughly each time, since otherwise it becomes spotty."

The satin or silk-like finish is produced by the rounding out of the sharp edged pits in the frosted surface.

Thus, here again we find the *two*-step process, this time applied to *hollow* glass. Moreover, this publication specifically refers to the use of a weaker or diluted etching solution for the second step as recommended by the Pipkin patent (specification R. 141, ls. 72-87, inclusive).

The Tillotson Article, October, 1917 (R. 291-295).

This article (which appeared in the Journal of Industrial & Engineering Chemistry and emanated from the Mellon Institute of Industrial Research) was not cited by the Patent Office during the prosecution of the Pipkin application.

Tillotson describes the nature of a glass surface etched with various solutions of hydrofluoric acid and ammonium fluoride, and then says (R. 293):

> "When an etched surface as shown in Fig. 5, is immersed in a solution of hydrofluoric acid, a similar action takes place. Figs. 9 to 11 illustrate such action for one-quarter, one-half and one minute immersion in a solution of equal parts of concentrated hydrofluoric acid and water. That this result is a necessary consequence of uniform solution by the acid may be demonstrated geometrically. The first effect as shown in Fig. 9, is an enlarging and *rounding out* of the 'valleys', finally resulting, as shown in Fig. 11, in a series of *smooth 'saucer-like'* depressions. This operation, *which changes in so profound a way the character of the glass surface,* is made evident to the naked eye only as a slight decrease in the opacity of the glass."

The etching solutions and steps summarized below Figs. 1-11 at R. 292, are more like petitioner's commercial process than the disclosure of the Pipkin patent, *i. e.*, hydrofluoric acid and ammonium fluoride are employed for frosting, and dilute hydrofluoric acid is employed for rounding out the crevices (R. 27-28; XQs. 175-179, p. 43a).

We call particular attention to Figs. 9 to 11, which illustrate the result of immersing the glass (which has been previously etched *once*) in *"dilute* hydrofluoric acid" for different periods, ranging from 15 seconds to 60 seconds.

This article is a complete disclosure of the subject matter of the Pipkin patent, differing from it only in that no reference is made to the use of the etched glass as a bulb for incandescent lamps, or to an increase in strength which, concededly, inevitably results from rounding out the otherwise angular crevices. *Tillotson not only described in detail the rounding out of the crevices but illustrated it by microphotographs.*

Kennedy Patent 733,972 of 1903 (R. 259).

This patent shows that inside frosted electric lamp bulbs were old in the art.

The patent states that the etching is effected by an acid, and continues (R. 260, l. 18):

> "By 'acid' is here meant any liquid capable of producing the frosting or appearance called 'frosting' on the surface of the glass. Usually hydrofluoric acid or its compounds are employed for acting on or etching on glass, *and this art is now well understood.*"

According to Pipkin, all that one needed to do in order to produce his allegedly superior inside frosted bulbs was to etch them twice. Obviously, therefore, even if it be as-

sumed that only *one* etching treatment was contemplated by Kennedy, no invention was involved in using the known *two*- (or more) step processes for the known purpose of rounding the crevices.

Petitioner strenuously argues that the Kennedy patent shows only a *one*-step process, and could not, therefore, produce a bulb having the physical characteristics claimed by Pipkin. Whether or not the process disclosed by Kennedy is a *one*-step or a *two*-step process is wholly immaterial to any issue of this case. The only material fact is that *respondents employ the Kennedy process*, as was conclusively demonstrated at the trial of the case (see the District Court's opinion, R. 331-332; and Finding of Fact IX, R. 347); which demonstration was never rebutted. It is too elementary even to require citation of authority that *that which infringes if later, anticipates if earlier.*

Petitioner also questions the operativeness of the Kennedy patent, on the theory that the success or failure of the Kennedy process depends upon the character and temperature of the etching solution and rinse, and Kennedy merely said that *any* etching solution may be and water of an unspecified temperature should be employed (brief, pp. 17 *et seq.*).

The trouble with this argument is that if the etching formula and temperature are critical features, then respondents do not infringe because respondents do not use Pipkin's, and the patent is invalid for added reasons. Pipkin describes only one etching solution; does not say that its particular composition is important; and the claims say nothing about it. There is no basis in the Pipkin patent for imputing any importance to the particular etching solution and temperature to be used, and only in connection with the Kennedy patent does petitioner, in desperation for *some* argument, say that there is. Respondents do not

use the Pipkin frosting solution, *and Spencer admitted that petitioner never has used the Pipkin solution commercially for the inside frosting of lamp bulbs,* probably because it was unsatisfactory.[11] Yet petitioner relies heavily upon the alleged "commercial success" it attributes to Pipkin's alleged invention.

Petitioner's second point against Kennedy is that only a *hot* water rinse will produce a successful result, and although Kennedy prescribes a water rinse he specifies no temperature. We will fully discuss the merits of this contention later in our brief (*infra,* p. 41), but note now that neither does the Pipkin patent give any information as to the temperature of the water rinse, and that the use of both hot and cold water rinses was well known in the art. Besides, the contention is based solely upon the assertion of counsel, as distinguished from evidence in the record.

Certainly, petitioner's mere unsupported assertion of inoperativeness or want of utility of Kennedy cannot be accepted in the face of the Trial Court's statement (R. 331):

> "It was convincingly demonstrated at the trial of this cause that a bulb frosted according to the method of Kennedy was comparable in strength to the bulb defined by Pipkin in his claims."

Even without the demonstration, petitioner's mere unsupported statement could not be accepted as overcoming the presumption of validity and utility which attached to the grant of the Kennedy patent.

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[11] The solution had been used only for *outside* frosting, but even that was discontinued in 1912 or 1920 (Spencer XQs. 185-9, R. 44, RDQ259, R. 56, RXQs. 262, 267, R. 57, Q315, R. 84). Note that Pipkin's first application was filed on February 4, 1924 (R. 159), *at least four years after the use of the etching solution specified by Pipkin had been discontinued by petitioner.*

In *Dashiell* v. *Grosvenor* (162 U. S. 429, 432), this Court in considering the sufficiency of a prior patent as a reference which was attacked on the ground that it was inoperative and of no utility, said:

> "Inoperative devices are frequently set up as anticipations, but they are usually such as have proved to be so far failures that the inventor has not taken out patents for them, and are resuscitated for the purpose of showing that other machines similar to the one patented have been invented before. *The very fact that a machine is patented is some evidence of its operativeness, as well as of its utility,* and where a model is constructed after the design shown in a patent which is not perfectly operative, but can be made so by a slight alteration, the inference is, that there was an error in working out the drawings, and not that the patentee deliberately took out a patent for an inoperative device."

Also, in *Indiana & Illinois Coal Corporation* v. *Clarkson, et al.* (91 F. (2d) 717, 721, C. C. A. 7th) where the Shanaberger patent, which was cited as a reference against the patent in suit, was attacked on the same ground as petitioner is now attacking the Kennedy patent, the Court held:

> "It cannot be said that Shanaberger abandoned an experiment of a mere idea, *for a patent issued on that idea and it comes to us with the same presumption of validity as that which attaches to appellee's patent. He may have abandoned the use of that patent, but if so the world was entitled to its disclosures,* and appellee is not to be preferred to others in respect thereto."

Wood Patent No. 1,240,398 of 1917 (R. 263).

This patent illustrates and describes that sharp angular crevices are obtained by a *one*-step etching or sand blasting

process, and that the sharp angular crevices are rounded out by a *second* etching treatment. The patent describes the glass thus produced as a screen especially useful in cameras, but also states (R. 263, l. 106):

> "Such a screen is also useful for rendering the *bulbs of incandescent lamps diffusing* without at the same time causing the very marked loss in the efficiency of the lamp, which results from frosting the bulbs in the usual manner."

The patent does not describe frosting the *inside* of a bulb, nor does it refer to the strength of the bulb when frosted. At least since the date of the Kennedy patent, we knew that an inside frosted electric lamp bulb was preferable to outside frosted bulbs. There could be no invention in frosting *either* side of a piece of glass by the same process.

Petitioner vigorously and repetitiously contends (*e. g.* brief, p. 10) that the feature of strength is inherent to the rounding out of the angular crevices. The Wood patent not only describes but *illustrates* how this rounding is effected (something which the Pipkin patent does not do). Inasmuch as strength is inherent to this feature, Wood inevitably obtained the strength specified by the Pipkin patent.

Harrison Patent No. 1,299,936 of 1919 (R. 267).

This patent is for a light diffusing globe mounted over incandescent lamps. Such a globe is an obvious example of "other similarly thin glassware which is used for electrical and illuminating purposes" to which the application for the patent in suit, as filed, was specifically directed. The inside, curved surface of the glass is moulded, as stated in the specification (R. 267, ls. 59, *et seq.*) into

> "* * * small protuberances and depressions, whereby each protuberance is more or less rounded and merges into the depressions in a smooth and gradual manner."

Harrison's purpose was (as stated R. 268, beginning l. 65):

> "the elimination of sharp points and crevices",

and, as a result, in his globe (as stated R. 267, l. 65):

> "all sharp edges formed by the intersection of small plane surfaces are absent."

The Pipkin claims differentiate from the Harrison patent not in *structure* but solely in *the manner the rounding of the crevices is effected, viz.,* as a result of ~~etching,~~ which is a *process* or *method* limitation, and has nothing whatever to do with the *product.* If this *method* limitation is *not* relied upon to differentiate the Pipkin claims from the Harrison patent, then the claims are invalid because of literal anticipation. If, on the other hand, the *method* limitation *is* relied upon as the basis of differentiation, then the claims are invalid as improperly defining a *product,* and they are not infringed because defendants do not use the method.

As was said by the Court of Appeals for the Sixth Circuit in *Westinghouse Electric & Mfg. Co.* v. *Quackenbush* (53 Fed. (2d) 632, 634):

> "While a patent may issue for a new and useful article of commerce as well as for the process by which such article is made, it is obvious that the claims must point out and distinctly claim the features constituting novelty *and that the method by which the article is produced is not one of such features.*"

Conclusion on Anticipation and Invention.

It is submitted that the Pipkin patent is invalid because of complete anticipation by and want of patentable invention over the prior art, as found by the Court below.

POINT V.

The patent is not infringed because it covers only bulbs frosted by a two-step process, and defendant uses a one-step process.

The District Court sustained this defense, but the Court of Appeals, having found the patent to be invalid, did not go into the matter.

As we have shown, the Courts which have previously held the Pipkin patent valid did so on the theory that the *two*-step process described by the patent and used by the respondents before them was the *only* process capable of producing a commercially practical inside frosted lamp.

Unlike the prior litigants, respondents do not use the *two*-step process, but to the contrary, use the *one*-step process of the prior art as the District Court below specifically found.[12] Since the accused commercial product is satisfactory, its production by the *one*-step process shows that the procurement of the Pipkin patent from the Patent Office, and the favorable adjudications from the Second and Sixth Circuit Courts of Appeals was obtained by the misrepresentation of a material fact.

Figures 1 and 2 of the patent, with the corresponding description, demonstrate that no matter how long the frosting solution may be left inside the bulb, the bulbs that were merely etched *once* were so weak as to be commercially useless. This was so even where the temperature at which the

[12] Finding of Fact IX, R. 347.

frosting was carried out was raised to 50° C (R. 142, l. 54 *et seq.*). After 30 seconds of frosting the strength of these bulbs was less than 3 on the scale, and as Pipkin says (R. 142, l. 45 *et seq.*):

> "A bulb having a strength less than 7, which is about 16% of that of the clear bulb, would be too fragile for handling commercially."

This is the strength defined in claim 1, and the strength of 45%, which is defined in claim 2 corresponds to a strength of 20 in Figure 2 of the patent.

Pipkin summed up by saying (R. 142, l. 128 *et seq.*):

> "Lamps frosted on the inside but which were *not* given the strengthening treatment showed strength 6.8; * * * Lamps frosted on the inside and given *the strengthening treatment comprised by my invention* for ten seconds showed strength 30.4; * * *."

It will be apparent, therefore, that the patent teaches that not only will a *one*-step process *not* produce the product defined by the claims, but also that a *two*-step process alone will do so. Therefore, the express wording of the claims for a product "having its interior surface frosted by etching *so that*" the three physical characteristics or properties thereafter recited are obtained, necessarily brings into the claim the specific process *alone* described as capable of producing the product so defined.

It follows, therefore, that respondents, who produce their inside frosted bulbs by the *one*-step process which was disclaimed by Pipkin do not and cannot infringe the patent.

In arguing that the claims are not limited to the process disclosed, petitioner cites decisions in which patents for products were held not to be limited to specific processes, but omits any reference to the reasons stated by the Dis-

trict Court for its opposite conclusion on the facts in this case. The Court said (R. 328):

> "It is conceded that the described improvement, to wit, the interior mat surface 'characterized by the presence of rounded as distinguished from sharp angular crevices,' is *the unavoidable result of a chemical etching process which had been in common use in the glass industry for many years prior to the present invention.* This result, like many chemical phenomena, is so inherent in the process that it is difficult, if not *impossible, to alienate the defined surface from the process which produces it.* The claims of the patent in suit, as well as the disclosures of the prior art references, must be read in the light of this fact if their full import is to be appreciated.
>
> "The claims in suit, although directed to an improvement in an article of manufacture, to wit, the interior mat surface, *are so drafted as to necessarily embrace the chemical process* by which the defined result is produced. *The process and the result are so inter-related that they are inseparable.*"

Respondents use no strengthening treatment (Herzberg, Q47, R. 92). They etch once for 12-15 seconds (A. 52, R. 93), then wash out the bulbs and dry them.[13] The etched bulbs are first washed in water, heated to about 180° F. (Q56, R. 93), and then in cold water (Q58, R. 94). The whole process of etching and washing takes less than a minute. Respondents do exactly what the Pipkin patent condemned and, as we have shown, what was well known in the prior art practice of etching glass.

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[13] The etching solution used by defendants consist of hydrofluoric acid, ammonium bifluoride, ammonium bicarbonate, soda ash and water (Q80, R. 99). This is one of many well-known types of etching solutions, and is different from the one disclosed by Pipkin.

Hot Water Washing.

Petitioner contends that respondents' practice of washing with hot water differentiates the process from Kennedy who, petitioner says, washes with cold water. The argument is without merit and could have no bearing on the infringement of Pipkin's claims because *neither the specification nor the claims of the Pipkin patent say anything about rinsing water temperatures.*

Kennedy provides water and acid in adjacent tanks *and says nothing about their temperature.* Pipkin also washes after the first etching treatment (R. 143, ls. 115-118) and *he does not say what the temperature of his washing water should be.*

The washing with hot water was a well-known expedient in the etching of glass and, from the numerous examples in the prior art, the following passages are cited:

Sprechsaal, Vol. 40, 1907, No. 49 (*R. 286, 287*), specifically says that if after the first etching treatment the glass is washed in *hot* water, then a second acid bath can be dispensed with. The text is as follows (beginning l. 55, R. 286):

> "After 25-30 minutes the frosting is completed and the glass is cleansed completely of the resulting coating in *hot* water. Frequently the frosted glass is dipped into a mixture of hydrochloric and acetic acid in order to remove the coating more easily. If sufficiently *hot* wash water is employed, however, this operation is unnecessary."

In *Hohlbaum, 1910* (R. 300), we find:

> "After frosting in the frosting bath the articles are placed into a container of warm water so that the salt crust adhering to the surface is loosened and then into another container of *hot water.* When the glasses are cleaned they are placed on a lathe framework where they dry at once since the hot water

adhering to them quickly evaporates. *The water in the containers is warmed by steam which is passed through the water in lead tubes.* The water must be changed several times a day."

Sprechsaal, No. 48, Vol. 45 (R. 303) says:

"Third answer: *Glass bulbs for electric lamps* can be frosted either by means of the sand blast or in the frosting bath. For frosting with sand either special machines capable of high output particularly suitable for bulbs are constructed which naturally only come in question where large quantities are to be frosted. If however small quantities only are to be frosted the *frosting bath* is employed. This consists of potassium fluoride and fluoric acid dissolved in water. The bulbs are first of all thoroughly cleansed and this is best done by placing them in quite weak fluoric acid. After washing, the bulbs come in to the frosting bath in which they remain ½-¾ of an hour according to the desired shade. *After frosting the bulbs are washed with hot water to which a little acetic acid is added whereby the coating produced in the frosting bath is better dissolved.*"

Except for slight differences in the composition of the frosting bath, *and except for the absence of acid from the washing water,* this is the process that respondents use. Sprechsaal, like Pipkin, gives the lamp bulbs a second etching treatment by a diluted acid etching solution. Respondents differ from them both by washing the bulbs with plain water, taking particular pains continuously to remove and recover from the water any chemicals that may be washed from the interior of the bulbs, and by continuously adding fresh water (Q67, R. 95; XQs. 166-167, R. 112; XQ170, R. 113).

In the face of these facts petitioner's contention that respondents' washing the bulbs with hot water corresponds

to Pipkin's second treatment is absurd when it is remembered that *the process* described by the Pipkin patent *employs a water washing between the two etching steps.*

Moreover, it is obvious that if respondents' washing corresponds to Pipkin's "strengthening" treatment, then so does Kennedy's, and so does the washing of all the prior publications.

It follows that, as found by the District Court below, regardless of the validity of the Pipkin patent, its claims are not infringed by respondents.

POINT VI.

The frosted surface of the accused bulbs is not characterized by the same kind of crevices as would be produced by the Pipkin process.

The Pipkin patent neither illustrates nor describes what is meant by the "presence" of "rounded" as distinguished from sharp angular crevices. It would be interesting to see what a bulb looks like that *was* frosted in accordance with the Pipkin process. *No one has ever seen one.* In this and prior litigation petitioner always illustrated the Pipkin invention by its *recent* commercial products which concededly were made by a *different* process.

If the critical limitations in the claims mean anything, then they must mean that there are *no* sharp angular crevices left in the bulb. Concededly, in bulbs produced by respondents' process, there are some *angular* crevices, and the *rounded* crevices differ from petitioner's commercial structure (XQs. 220-225, R. 49; XQs. 32-38, R. 71; R. 128; R. 132, 133). Since Pipkin takes great pains to point out that a *single* application of etching fluid leaves only *sharp* crevices and *not* the *rounded* crevices of the patent, and since respondents use only the *one*-step process, it follows

that respondents' bulbs do not and cannot have the kind of "rounded" crevices specified by the Pipkin claims.

It is obvious, therefore, that the claims of the Pipkin patent are not infringed.

Conclusion.

The judgment of the Third Circuit Court of Appeals should be affirmed.

Respectfully submitted,

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